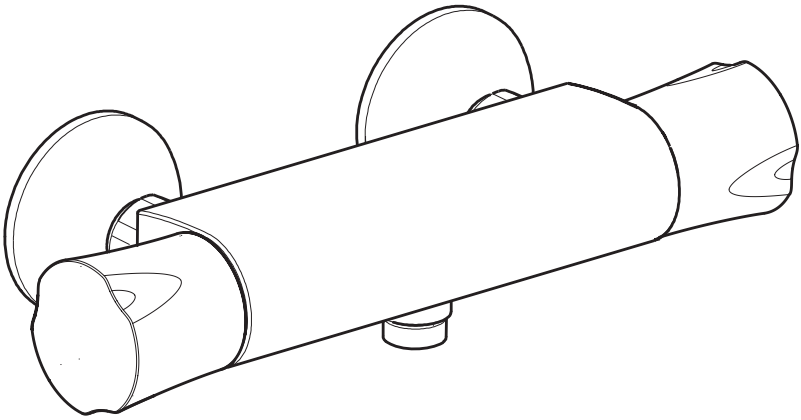
mira

Discovery



THERMOSTATIC

BAR VALVE

Installation and User Guide

These instructions are to be left with the user

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INTRODUCTION

Thank you for purchasing a quality Mira product. To enjoy the full potential of your new product, please take time to read this guide thoroughly, having done so, keep it handy for future reference.

The Mira Discovery Thermostatic Bar Valve is a Thermostatic Shower Control designed for wall mount installations.

The Thermostatic Bar Valve has two knobs, one knob controls the flow and the other knob controls the temperature.

The Thermostatic Bar Valve incorporates a wax capsule temperature sensing unit, which provides an almost immediate response to changes in pressures or temperature of the incoming water supplies to maintain the selected temperature. An adjustable maximum temperature stop is provided which limits the temperature to a safe level. Inlet Filters are fitted to protect the thermostatic cartridge.

This product has been certified as a Type 2 valve under the BUILDCERT TMV2 scheme. This product also complies with the Water Supply (water fittings) Regulations 1999.

Guarantee

For **domestic installations**, Mira Showers guarantee the Mira Discovery Thermostatic Bar Valve against any defect in materials or workmanship for a period of three years from the date of purchase (shower fittings for one year).

For **non-domestic installations**, Mira Showers guarantee the Mira Discovery Thermostatic Bar Valve against any defect in materials or workmanship for a period of one year from the date of purchase.

For terms and conditions refer to the back cover of this guide.

Recommended Usage

Application	Valve with Fittings
Domestic	✓
Light Commercial	✓
Heavy Commercial	×
Healthcare	×

Patents

Patents	GB 2 407 138

If you experience any difficulty with the installation or operation of your new Thermostatic Mixer, please refer to **'Fault Diagnosis'**, before contacting Kohler Mira Ltd. Our telephone and fax numbers can be found on the back cover of this guide.

SAFETY : WARNINGS

This Mira Discovery Thermostatic Bar Valve is precision engineered and should give continued safe and controlled performance, provided:

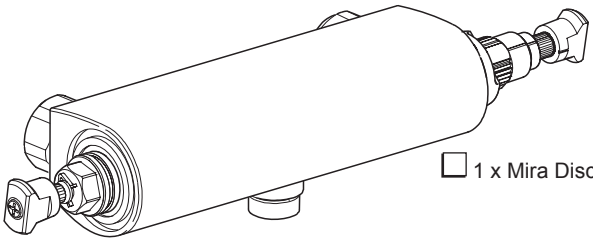
1. It is installed, commissioned, operated and maintained in accordance with manufacturers recommendations.
2. Periodic attention is given, when necessary, to maintain the product in good functional order.

Caution!

1. Read all of these instructions.
2. Retain this guide for later use.
3. Pass on this guide in the event of change of ownership of the installation site.
4. Follow all warnings, cautions and instructions contained in this guide.
5. Anyone who may have difficulty understanding or operating the controls of any shower should be attended whilst showering. Particular consideration should be given to the young, the elderly, the infirm or anyone inexperienced in the correct operation of the controls.
6. When this product has reached the end of its serviceable life, it should be disposed of in a safe manner, in accordance with current local authority recycling, or waste disposal policy.

PACK CONTENTS

☑ Tick the appropriate boxes to familiarise yourself with the part names and to confirm that the parts are included.



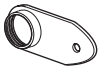
☐ 1 x Mira Discovery Bar Valve

☐ 1 x Flow Knob

☐ 1 x Temperature Knob

☐ 2 x Concealing Plates

☐ 2 x Inlet Seals / Filters



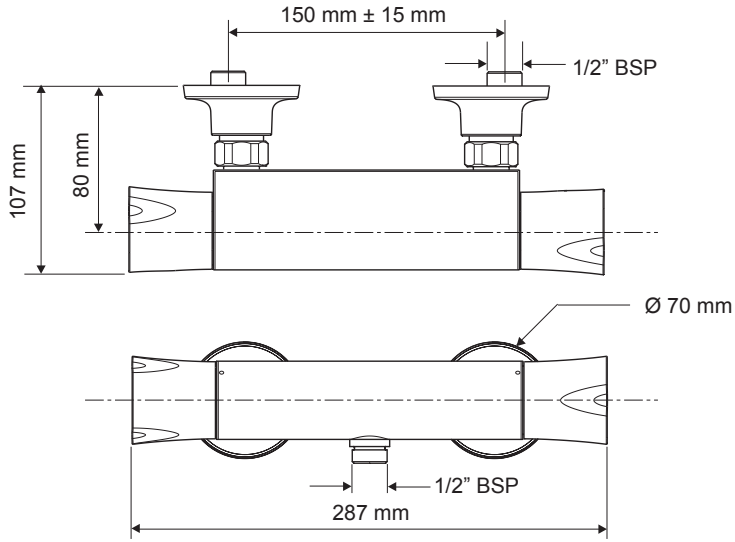
☐ 2 x Wall Mounting Brackets

☐ 2 x Offset Connectors

Documentation

☐ 1 x Guarantee Brochure

DIMENSIONS



SPECIFICATIONS

For Type 2 Valves, the supply conditions specified in section: **'Type 2 Valves - Application'** take precedence over the operating parameters which follow.

Pressure Range

- Minimum maintained pressure: 0.2 bar (2.0 metre head).
- Maximum maintained pressure: 5.0 bar.
- Maximum static pressure: 10 bar.

Note! Nominally equal inlet supply pressure are recommended for optimum performance.

Temperature Control

- Close temperature control is provided between **20°C and 50°C.**

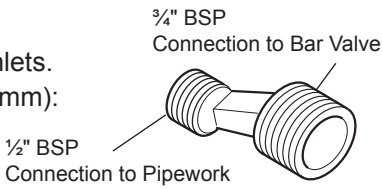
  Note! The temperature control specification, outlined below, is achieved with the blend between **35°C** and **45°C,** and supply temperatures of **15°C** cold and **65°C** hot, **AND**, nominally equal inlet supply pressures.
- The blended temperature is maintained within **2°C with a 10°C** change in the hot or cold supply.
- The wax capsule sensor effects a shut down to seepage in approximately 2 seconds if the cold supply fails. Shut down to seepage is only achieved if the hot supply is **10°C** above the blend temperature.
- Minimum hot water supply temperature: **55°C**
- Maximum hot water supply temperature: **90°C** for short periods.
- BS 6700 recommends that the temperature of stored water should never exceed **65°C.** A stored water temperature of **60°C** is considered sufficient to meet all normal requirements and will minimise the deposition of scale in hard water areas.

Connections

Connections are:

- **Hot - Left** (side nearest flow control), ½" BSP Male.
- **Cold - Right** (side nearest temperature control), ½" BSP Male.
- **Bottom-Outlet**, ½" BSP Male.

Note! This product does not allow for reversed inlets.
Offset connector (inlet centres are 150 mm ± 24 mm):



INSTALLATION

General

The Control Knobs will require fitting prior to use refer to section: **'Assembly of Control Knobs**' for instruction.

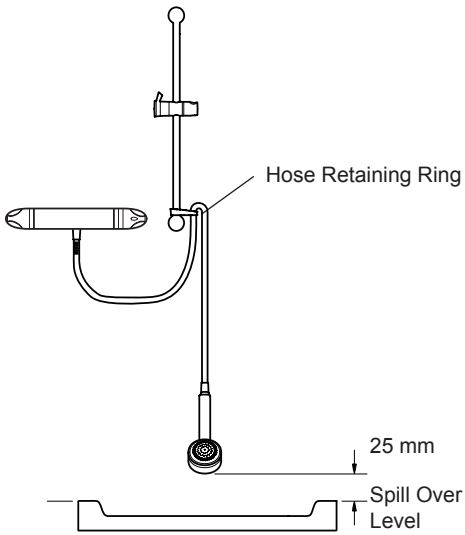
Installation must be carried out in accordance with these instructions, and must be conducted by designated, qualified and competent personnel.

The installation must comply with the "Water Supply Regulations 1999 (Water Fittings)" or any particular regulations and practices, specified by the local water company or water undertakers.

Note! Make sure that all site requirements correspond to the information given in section: **'Specifications'**. For Type 2 Valves see also supply conditions in section: **'Type 2 Valves'**.

1. The Bar Valve must not be installed in an area where it may freeze.
2. For stud partitions alternative fixings may be required.
3. Isolating valves must be installed close to the Bar Valve for ease of maintenance.
4. Pipework must be rigidly supported and avoid any strain on the connections.
5. Pipework dead-legs should be kept to a minimum.
6. Supply pipework layout should be arranged to minimise the effect of other outlet usage upon the dynamic pressures at the Mixer inlets.
7. Inlet and outlet threaded joint connections should be made with PTFE tape or liquid sealant. Do not use oil-based, non-setting joint compounds.
8. To eliminate pipe debris it is essential that supply pipes are thoroughly flushed through before final connection.
9. Decide on a suitable position for the Bar Valve. The position of the Bar Valve and the Shower Fittings must provide a minimum gap of 25 mm between the spill-over level of the shower tray/bath and the handset. This is to prevent back-siphonage. For further information on the installation of your **Shower Fittings**, refer to the Fittings Installation and User Guide.

   Note! Only use Shower Fittings recommended by the manufacturer or supplier.

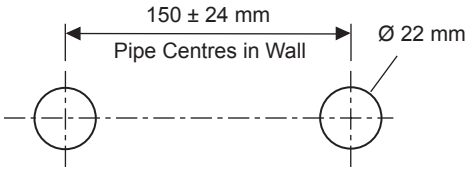


Solid Wall Installation

For Solid Wall installations the Thermostatic Bar Valve can be supported by the pipework provided that it is securely fixed to the wall. Alternatively for unfixed rear entry pipework the Wall Mounting Bracket can be used.

For installation onto a Stud Partition, Laminated Panel, or onto Unfixed Rear-entry Pipework (using the Wall Mounting Bracket) refer to section: **'Stud Partition, Laminated Panel, or Unfixed Rear-entry Pipework Installation**'.

1. Install the pipework, make sure that it is set at the correct distance apart (150 ± 24 mm) and solidly fixed as this supports the valve.



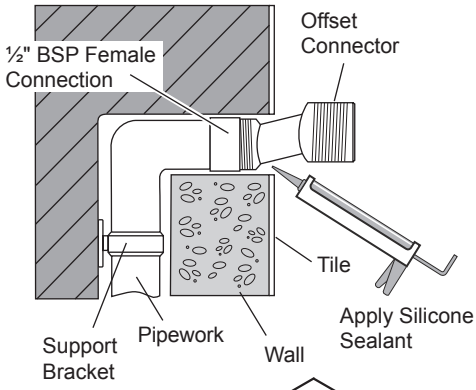
2. Apply suitable thread sealant (not supplied) and attach the Offset Connectors to the pipework in the wall.

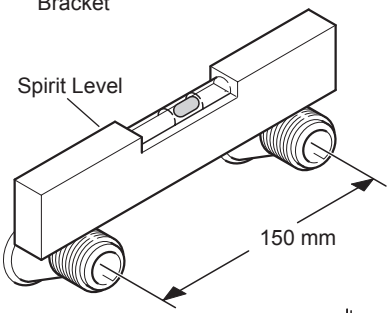
Note! Connections are: **Hot-Left**, **Cold-Right**, **Bottom-Outlet**.

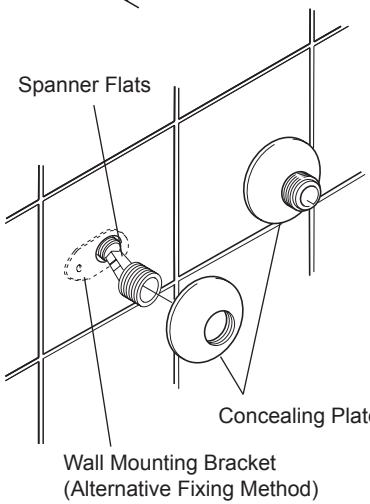
3. Tighten the Offset Connectors using a spanner on the spanner flats. Make sure that the Connectors are level and set at the correct distance apart, using the Bar Valve as a guide to spacing.

4. Screw the Concealing Plates onto the Offset Connectors until they come into contact with the wall.

5. Install the Bar Valve, refer to section: **'Stud Partition, Laminated Panel, or Unfixed Rear-entry Pipework Installation'** and follow instructions 9 to 12.

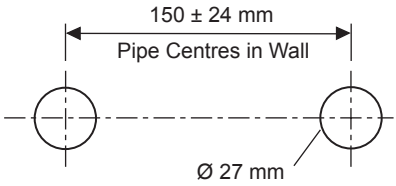




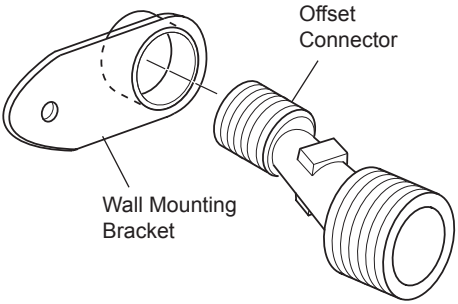


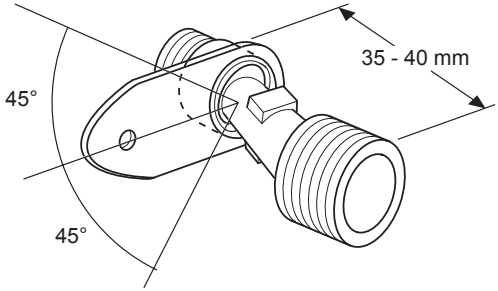
Stud Partition, Laminated Panel, or Unfixed Rear-entry Pipework Installation

For all installations using the Wall Mounting Bracket:



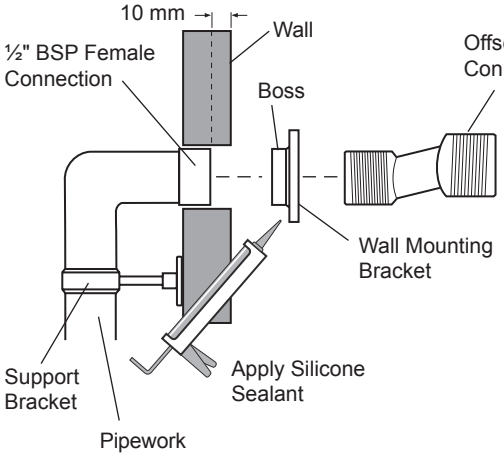
1. Install the pipework, make sure that it is set at the correct distance apart (150 ± 24 mm) and solidly fixed.
2. Screw the Mounting Brackets onto the Offset Connectors to the depth shown in the illustration.
3. The Mounting Bracket must extend in the same direction as the offset of the Offset Connector. The angle between the Offset Connector and the Mounting Bracket must be less than 45°, otherwise the Mounting Bracket will not fit under the Concealing Plate.

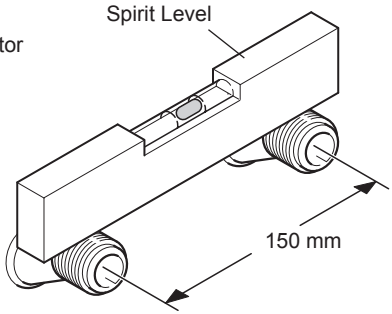




4. The Mounting Bracket Boss should protrude to the rear, facing the wall.
5. Apply suitable thread sealant (not supplied) and attach the Offset Connectors to the pipework in the wall.

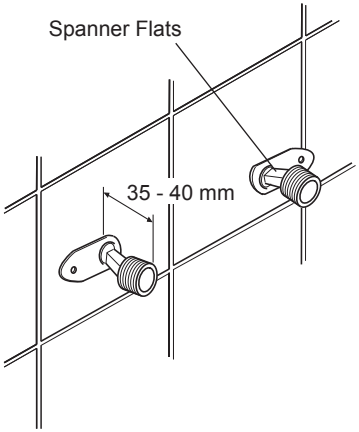
   Note! Connections are: **Hot-Left**, **Cold-Right**, **Bottom-Outlet**.

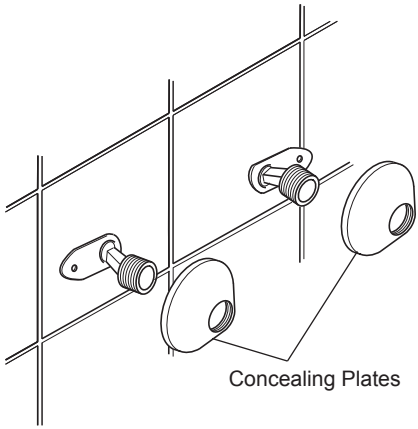




6. Tighten the Offset Connectors using a spanner on the spanner flats. Make sure that the Connectors are level and set at the correct distance apart, using the Bar Valve as a guide to spacing.
7. Fix the Mounting Bracket to the wall through the small hole, using the appropriate wall fixings for the type of wall (not supplied).

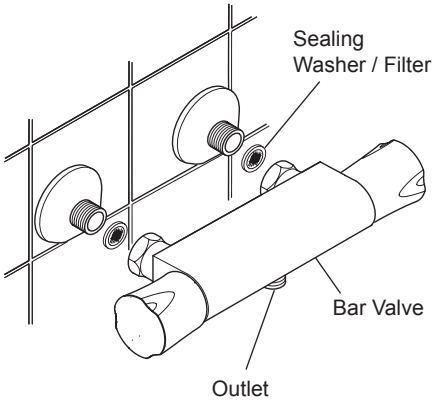
   Caution! Take care not to drill though any concealed pipework.
8. Screw the Concealing Plates onto the Offset Connectors until they come into contact with the wall.





9. **Caution!** Make sure that the supply pipework is flushed before installing the Bar Valve.

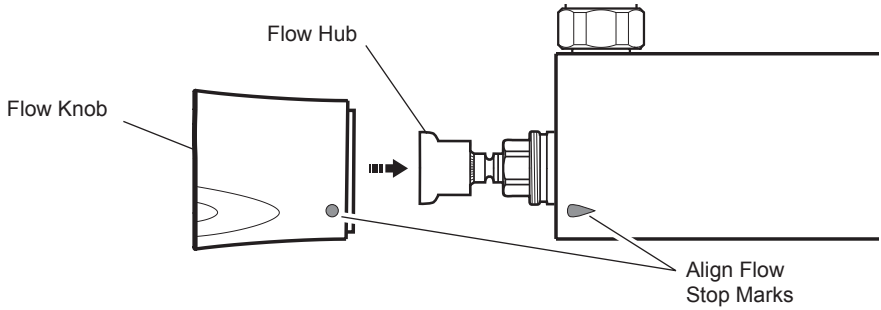
   Assemble the Bar Valve with a Sealing Washer / Filter in each inlet and attach to the Offset Connectors.
10. Tighten the connection using a 20 mm spanner.
11. Install the Shower Fittings, refer to the Shower Fittings Installation and User Guide.
12. Turn on the water supplies and check for leaks at all pipe connections.



Assembly of Control Knobs

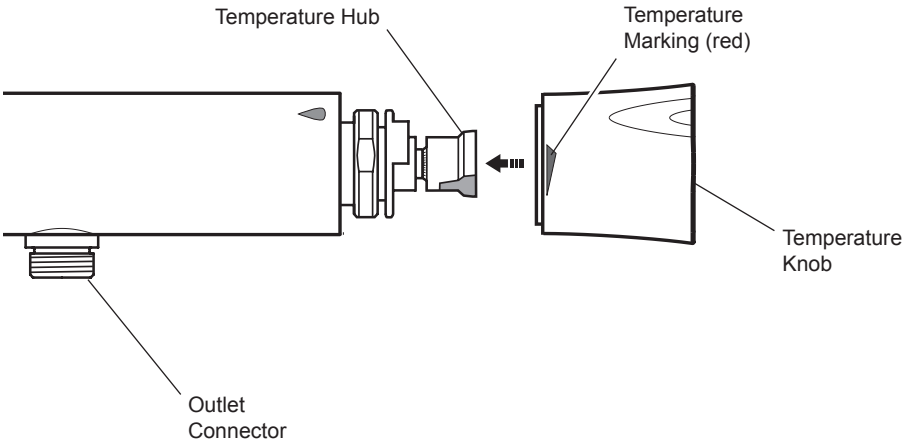
Flow Knob

1. Rotate the Flow Hub fully clockwise.
2. Both the Bar Valve and the Flow Knob have a flow stop marking, align both of the marks and push the Flow Knob until it locks onto the flow hub.



Temperature Knob

1. Rotate the Temperature Hub fully anti-clockwise.
2. Hold the Bar Valve with the Outlet facing down then align the red temperature marking on the Temperature Knob toward the Bar Valve as illustrated.
3. Push the Temperature Knob onto the Bar Valve until it locks onto the Temperature Hub.



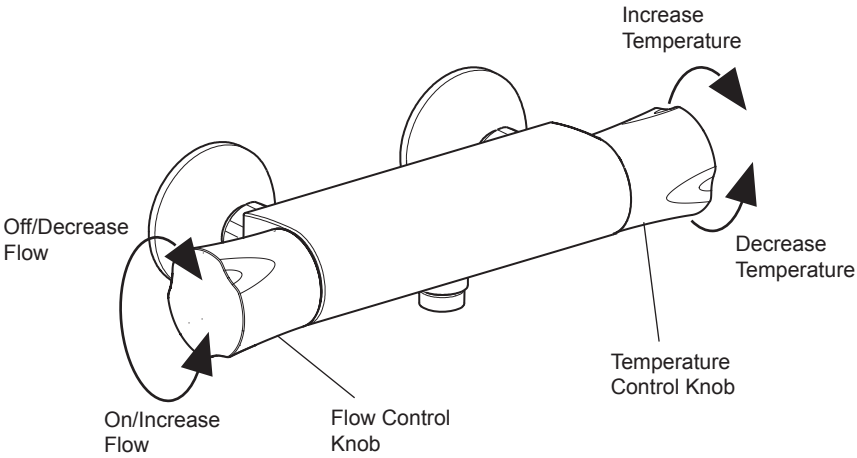
OPERATION

Adjusting the Temperature

The temperature is controlled by rotating the temperature control knob on the right side of the shower.

Adjusting the Flow

The flow is controlled by rotating the flow control knob on the left side of the shower.



COMMISSIONING

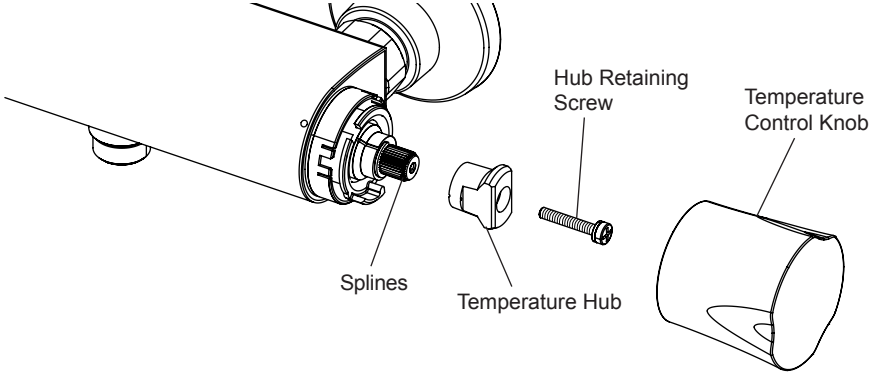
Setting the Maximum Temperature

The Mira Discovery Thermostatic Bar Valve has been preset to a safe showering temperature under ideal conditions at the factory, appropriate for most systems. However, site conditions and personal preference may make it necessary to reset this temperature.

Caution! Before testing the mixer, make sure that the hot and cold water are flowing correctly by turning the temperature selector knob between the cold and hot stops.

For Type 2 installations the maximum blend temperature is determined by the application, refer to section: **'Type 2 Valves - Application'**.

1. Turn on the shower.
2. Turn the temperature selector knob to full hot and test the temperature of the water from the shower outlet. If the water is not at the required temperature, proceed with the following procedure.
3. Turn off the shower.
4. Carefully pull off the temperature control knob.
   Note! Force will be required to pull the temperature control knob from the shower.
5. Unscrew the hub retaining screw.
6. Remove the temperature hub and replace it one spline clockwise to increase the temperature.
   Note! One spline clockwise equals approximately, 2°C increase in temperature.
7. Tighten the hub retaining screw.
8. Install the temperature knob. Make sure that the stop feature inside the knob is towards the top.
9. Turn on the shower and check the maximum temperature setting. If further adjustment is required repeat the above procedure.



FAULT DIAGNOSIS

Symptom	Cause / Rectification
1. Only hot or cold water from mixer outlet.	**a.** Inlet supplies reversed / change pipework. **b.** Faulty Non-Return Valve. **c.** Check that the Inlet Filters are not blocked.
2. Fluctuating or reduced flow.	**a.** Check that the Inlet Filters are not blocked. **b.** Make sure that the minimum flow rate is sufficient for the supply conditions. **c.** Make sure that the maintained inlet pressures are nominally balanced and sufficient. **d.** Make sure that the inlet temperature differentials are sufficient. **e.** Airlock or partial blockage in pipework.
3. No flow from mixer outlet.	**a.** Make sure that the Inlet Isolating Valves are open. **b.** Hot or cold supply failure. Make sure that hot and cold supplies are available. **c.** Refer to symptom **2**.
4. Blend temperature drift.	**a.** Inlet supplies reversed. **b.** Hot supply temperature fluctuation. **c.** Supply pressures fluctuating. **d.** Thermal Cartridge defective. **e.** Inlet Filters Blocked.
5. Maximum blend temperature setting too hot or too cold.	**a.** Indicates incorrect maximum temperature setting, refer section: **'Commissioning'.** **b.** Refer to symptom **4**.
6. Drip from handset.	**a.** A small amount of water may be retained in the fitting after the shower control has been turned off. This may drain over a few minutes. This is quite normal. Changing the angle of the shower fitting may vary the draining time. **b.** Defective ceramic plates within the shower cartridge. **c.** Renew the cartridge assembly.

MAINTENANCE

General

This Product is precision engineered and should give continued safe and controlled performance, provided:

1. It is installed, commissioned, operated and maintained in accordance with manufacturers recommendations.
2. Periodic attention is given, when necessary, to maintain the product in good functional order.

If you require a Mira trained engineer or agent, refer to section: **'Customer service'**.

Lubricants

Silicone based lubricants must only be used on the rubber seals.

Caution! Oil based or other lubricant types may cause rapid deterioration of seals.

Cleaning

The chrome plated parts should be cleaned using a mild washing up detergent or soap solution, rinsed and then wiped dry with a soft cloth.

Warning! Many household cleaners contain abrasive and chemical substances, and should not be used for cleaning plated or plastic fittings.

Do not use descalents on this product.

In-service Tests

The principal means for determining the continuing satisfactory performance of the mixing valve is the in-service test.

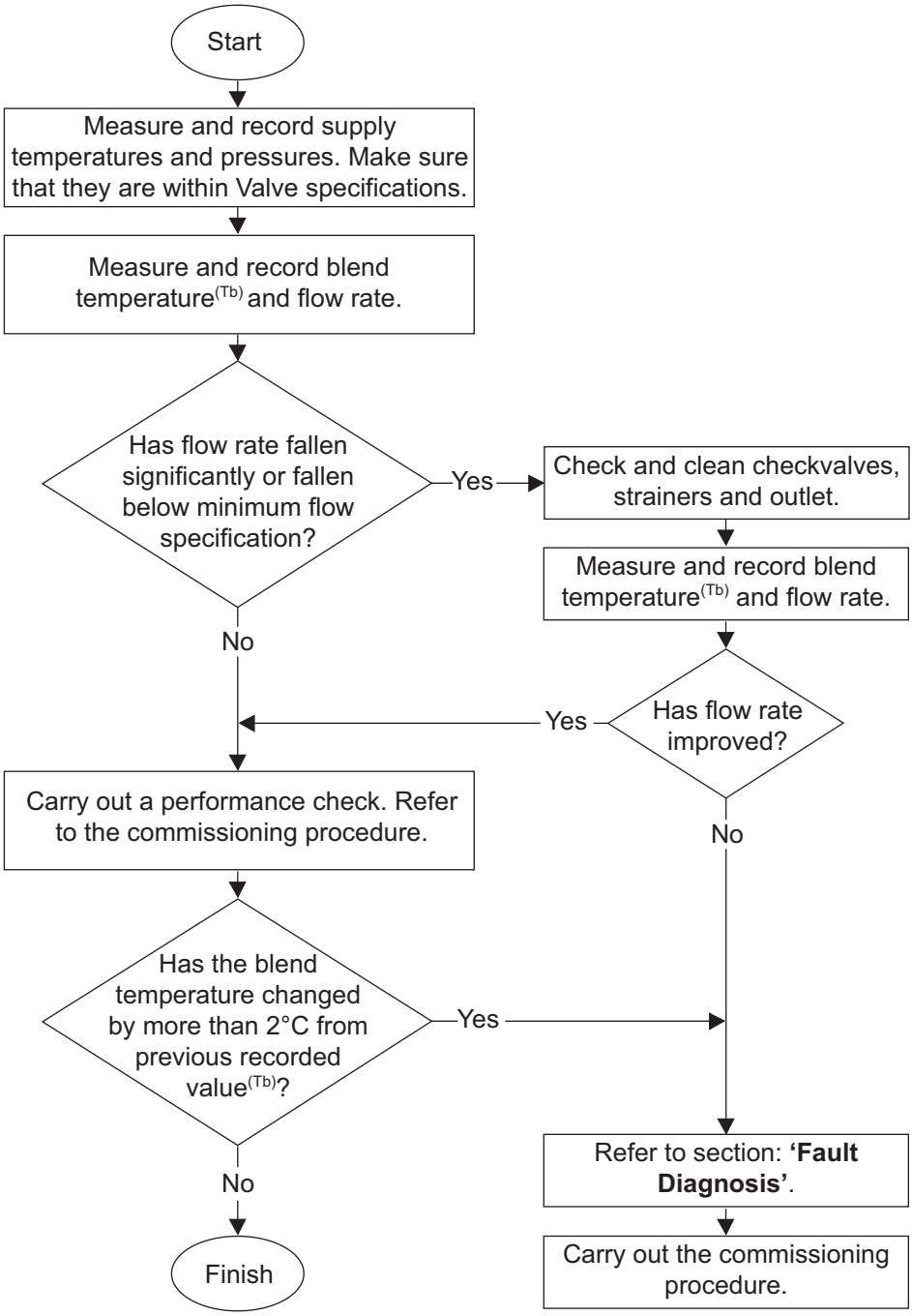
Follow the procedure detailed in the flow diagram "In-service Test Procedure".

Frequency of In-service Tests

Commercial (non-domestic installations)

Check for correct blend setting every 6 months.

Follow the procedure detailed in the flow diagram "In-service Test Procedure", every 12 months.


Start
Measure and record supply temperatures and pressures. Make sure that they are within Valve specifications.
Measure and record blend temperature(Tb) and flow rate.
Has flow rate fallen significantly or fallen below minimum flow specification?
Yes
Check and clean checkvalves, strainers and outlet.
Measure and record blend temperature(Tb) and flow rate.
Has flow rate improved?
Yes
No
No
Carry out a performance check. Refer to the commissioning procedure.
Has the blend temperature changed by more than 2°C from previous recorded value(Tb)?
Yes
No
Refer to section: 'Fault Diagnosis'.
Carry out the commissioning procedure.
Finish

Note! All measurements and results should be recorded in the Log Book.

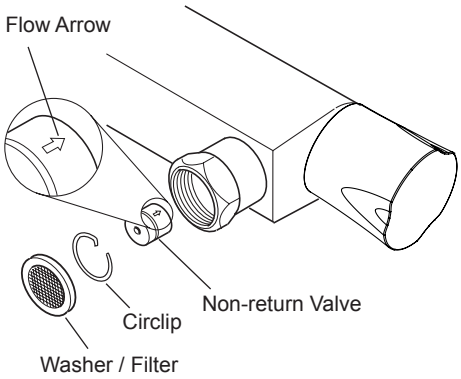
Flow Diagram, In-service Test Procedure

Maintaining the Non-Return Valves

The Non-Return Valves are located in the Bar Valve Body, and are accessible through the Inlet Connectors.

Caution! Make sure that the Non-Return Valves are installed correctly to prevent crossflow or malfunction of the Valve.

1. With the water supplies turned off and the Thermostatic Bar Valve removed, remove the Washer / Filter, and the Circlip
2. Carefully remove the Non-Return Valve and clean any debris.
3. On re assembly make sure that the Non-Return Valve is fitted the correct way round (with the arrow indicating the flow pointing towards the Valve).



Filters

The Inlet Washers / Filters are located in the Inlet Connector. Clean or renew as necessary.

Thermostatic Cartridge

In hard water areas the Filters in the Thermostatic Cartridge may become blocked with limescale, which will reduce the flow of water. It is recommended that the Cartridges are checked regularly and cleaned in a descaling solution (such as kettle descalent) if necessary. Be sure to follow the manufacturer's instructions on the descalent package.

Note! The Thermostatic Cartridge is non-servicable and will require replacement should failure occur.

TYPE 2 VALVES

Application

The approved designations for Type 2 Valves are as follows:

Model	Designation
Mira Discovery Bar Valve	HP-S

The permitted application details are:

Designation	Operating Pressure Range	Application	Mixed Water Temperature†°C
HP-S	Low Pressure	Shower	41°C Maximum

† Mixed water temperature at discharge point.

Important! For TMV2 installations the mixed water temperature at the discharge point should never exceed 46°C.

In order to achieve the safe water temperatures expected of a Type 2 Valve it is essential that the valve is used only for the applications covered by its approved designations, with the appropriate water supply pressures and temperatures, and it is commissioned, maintained and serviced in accordance with the recommendations contained in this guide (refer to the section **'Maintenance, In-Service Tests'** for in service test frequency that must be used as a minimum guide in Type 2 installations).

Supply Conditions

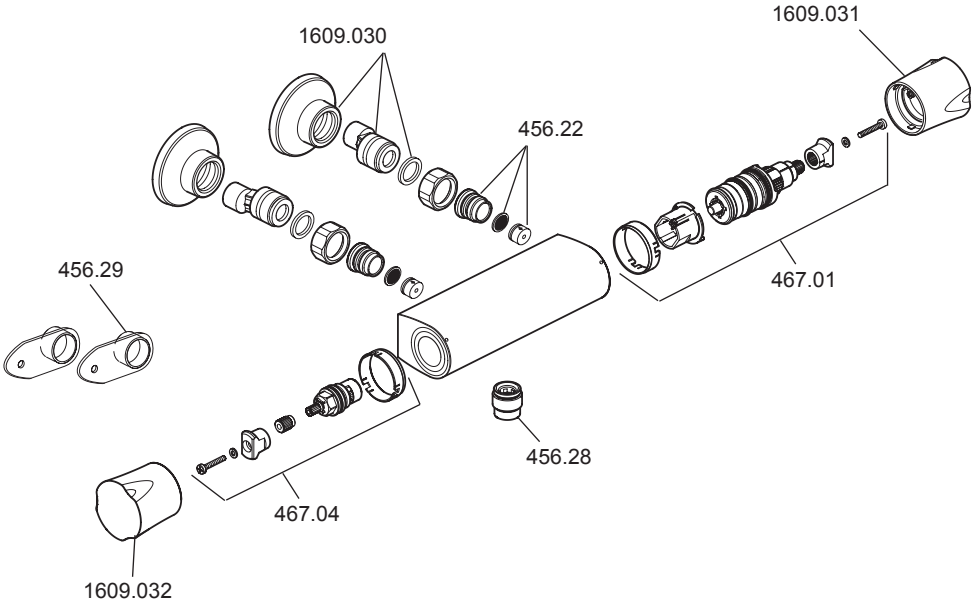
For applications where a Type 2 Valve is required, the supply conditions must comply with the values in the Table below. Note that both hot and cold supply pressures must lie within the same pressure range.

Operating Pressure Range	High Pressure	Low Pressure
Maximum Static Pressure (bar)	10	10
Maintained Pressure, Hot and Cold (bar)	1 to 5	0.2 to 1
Hot Supply Temperature (°C)	55 to 65	55 to 65
Cold Supply Temperature (°C)	≤ 25	≤ 25

Valves operating outside these conditions cannot be guaranteed to operate as Type 2 Valves.

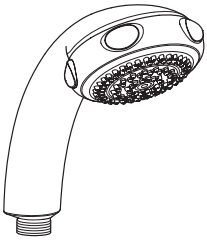
SPARE PARTS

456.22	Non Return Valve Assembly
456.28	Outlet Connector
456.29	Wall Mounting Bracket
467.01	Thermostatic Cartridge Assembly
467.04	Flow Cartridge Assembly
1609.030	Offset Connector Kit
1609.031	Temperature Knob
1609.032	Flow Knob

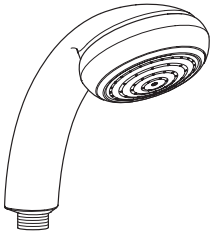


ACCESSORIES

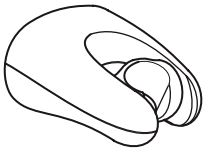
Genuine Mira accessories can be purchased direct from Customers Services (our contact details can be found on the back cover of this guide) or from approved stockists or merchants.



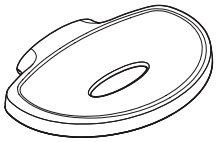
Eco Showerhead
White - 2.1668.001
Chrome - 2.1668.002
The Eco shower head gives you an invigorating shower, but reduces water consumption and heating costs.



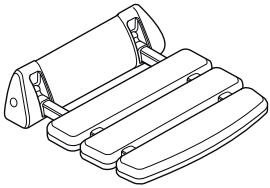
Everclear Showerhead
White - 2.1616.030
Chrome - 2.1616.031
Mira's new Everclear range has been specially designed for hard water areas and reduces the risk of lime scale build up.



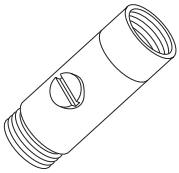
Showerhead Holder
White - 1.1540.270
Chrome - 1.1540.271
An alternative to the traditional slide bar. Often a useful addition when positioned for the smaller members of the family.



Wall Mounted Soap Dish
White - 1.1540.278
Chrome - 1.1540.279
Wall mounted for use anywhere in, or outside the showering area.



Shower Seat
White - 2.1536.128
White/Chrome - 2.1536.129
For use in or out of the showering area. **Note!** Must be installed onto a solid wall. Shower seat folds up when not in use



Double Outlet Check Valve (DCV-H)
Chrome - 1.0.110.55.1
DCV-H: An outlet double check valve, designed to prevent the backflow or backsiphonage of potentially contaminated water, through shower controls which are fitted with a flexible hose as part of the outlet shower fitting.

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CUSTOMER SERVICE

Guarantee

Your product has the benefit of our manufacturer's guarantee which starts from the date of purchase.

To activate this guarantee, please return your completed registration card, visit our website or free phone 0800 0731248 within 30 days of purchase (UK only).

Within the guarantee period we will resolve defects in materials or workmanship, free of charge, by repairing or replacing parts or product as we may choose.

This guarantee is in addition to your statutory rights and is subject to the following conditions:

- The product must be installed and maintained in accordance with the instructions given in this user guide.
- Servicing must only be undertaken by us or our appointed representative. **Note!** if a service visit is required the product must be fully installed and connected to services.
- Repair under this guarantee does not extend the original expiry date. The guarantee on any replacement parts or product ends at the original expiry date.
- For shower fittings or consumable items we reserve the right to supply replacement parts only.

The guarantee does not cover:

- Call out charges for non product faults (such as damage or performance issues arising from incorrect installation, improper use, lack of maintenance, build up of limescale, frost damage, corrosion, system debris or blocked filters) or where no fault has been found with the product.
- Water or electrical supply, waste and isolation issues.
- Compensation for loss of use of the product or consequential loss of any kind.
- Damage or defects caused if the product is repaired or modified by persons not authorised by us or our appointed representative.
- Routine maintenance or replacement parts to comply with the requirements of the TMV 2 or TMV 3 healthcare schemes.

What to do if something goes wrong

If your product does not function correctly when you first use it, contact your installer to check that it is installed and commissioned in accordance with the instructions in this manual.

Should this not resolve the issue, contact our Customer Services Team who will offer you or your installer advice and if applicable arrange for a Service Technician to call.

If the performance of your product declines, check in this manual to see if simple home maintenance is required. If you require further assistance call our Customer Services Team.

Extended Guarantees

A selection of protection plans are available that enable you to cover repair bills for the life of your policy (excludes Eire). Ring 01922 471763 for more details.

Helpdesk Service

Our dedicated Customer Services Team is comprehensively trained and can offer help and advice, spare parts, accessories or a service visit. We will need you to have your model name or number, power rating (if applicable) and date of purchase. As part of our quality and training programme calls may be recorded or monitored.

Mira Showers Website (www.mirashowers.co.uk)

From our website you can register your guarantee, download additional user guides, diagnose faults, purchase our full range of accessories and popular spares, refer to our FAQ's and request a service visit.

Spares and Accessories

We maintain extensive stocks of genuine spares and accessories and aim to provide support throughout the product's expected life. Payment can be made by phone at time of order using most major Credit or Debit cards and we aim to despatch orders within two working days. Items purchased from us are guaranteed for 12 months from date of purchase. For safety reasons spares exposed to mains voltages should only be fitted by competent persons.

Returns – items can be returned within one month of date of purchase, providing that they are in good condition and the packaging is unopened. Please obtain authorisation from our Customer Services Team before return. We reserve the right to apply a 15% restocking charge.

Service / Repairs

We have a nationwide team of Service Technicians who can carry out all service or repair work to your product within the guarantee period and beyond. You have the assurance of a fully trained Mira Technician, genuine Mira spare parts and a 12 month guarantee on any chargeable work done.

Payment should be made directly to the Service Technician who will accept most major Credit or Debit cards.

To Contact Us

UK

Telephone: 0844 571 5000

Mon to Fri 8:00 am - 5:30 pm, Sat 8:30 am - 3:30 pm

E-mail: technical@mirashowers.com

Fax: 01242 282595

By Post: Mira Customer Services Dept, Cromwell Road, Cheltenham, Gloucestershire, GL52 5EP

Eire

Telephone: 01 459 1344

Mon to Fri 9:00 am - 5:00 pm

E-mail: sales@modernplant.ie

Fax: Dublin 01 459 2329

By Post: Modern Plant Ltd (Dublin), Otter House, Naas Road, Clondalkin, Dublin 22

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The company reserves the right to alter product specifications without notice.

FM 14648

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